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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/557,371	04/25/2000	Katsuhiro Ishii	P/1905-95	8208

7590 08/21/2002

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EXAMINER

KINKEAD, ARNOLD M

ART UNIT	PAPER NUMBER
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2817

DATE MAILED: 08/21/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/557,371

Applicant(s)

ISHII, KATSUHIRO

Examiner

Arnold M Kinead

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 June 2002.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4 and 11-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4 and 11-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☒ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Drawings

1. The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on June 8, 2001 have been disapproved because they introduce new matter into the drawings. 37 CFR 1.121(a)(6) states that no amendment may introduce new matter into the disclosure of an application. The original disclosure does not support the showing of the connection between the phase comparator(3) and the controller(8).(No new drawing submitted in the last response.)

Claim Rejections - 35 USC § 103

I. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

II. Claims 4, and 11-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kesner (US 5,663,685, of record).

The reference by Kesner discloses a PLL frequency synthesizer(see figure 2). The pll includes vco(2), bias supply(29), and phase detector with pump outputs(1) and reference oscillator input. Note in col. 8, lines 15-end for the bias supply line changes to counter the change in the control voltage(please note that this describes the driving limits of the pump... only the duty cycle of the

pump pulses change as the loop goes through the various states(lock/unlock).

The reference by Kesner does not show a reference divider but this element is notoriously well known to be used in PLL synthesizers to reduce the frequency and is conventional. Also not shown is the use of such a PLL in a radio communication apparatus with output buffer on the PLL output for isolation. This too is notoriously well known as PLL's serve as frequency synthesizers for radio systems and conventional make use of isolation buffers to prevent unwanted loading problems.

In light of the above it would have been obvious for one of ordinary skill in the art to have added a reference divider to the input of the PLL(or feedback branch) of Kesner and thus enhance the PLL loop frequency as desired. The use of such a PLL with buffering in a radio system is also conventional and notoriously well known in the art.

Response to Arguments

III. Applicant's arguments filed 11-15-01 and 6/07/02 have been fully considered but they are not persuasive.

The examiner maintains the rejection with the reference(Kesner) because nowhere in the claims is there a direct input to the VCO claimed. The examiner called applicant's representative and described the reference and the charge pump(with driving limits).

Also, examiner used this new reference because applicants changed the recitation (in

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original claim 1)for --charge pump output voltage and output current-- to read charge pump output signal-- in claim 11 as amended(11/15/01).

Conclusion

1. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arnold Kinkead whose telephone number is (703) 305-3486. The examiner can normally be reached on Mon to Fri from 8:30 am to 5 pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal, can be reached on (703) 308-4909. The appropriate fax phone number for the organization where this application or proceeding is assigned is (703) 308-7724.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Arnold Kinkead

August 14, 2002


ARNOLD KINKEAD
PRIMARY EXAMINER